

We claim:

1. An optical disc player for reading an optical disc having a first side and a second side, each side having a respective first data layer, wherein data is arranged on said first side along a first spiral oriented in a first direction, and wherein data is arranged on said second side along a second spiral oriented in a direction that is opposite said first spiral when viewed on the respective sides, said optical disc player comprising:

a first laser head reading data from said first side;

a second laser head reading data from said second side;

a laser head controller that controls the movement of said laser heads;

and

a motor rotating said disc.

2. The player of claim 1 wherein said disc has two layers on said first side and wherein said first laser head reads data from said two layers on said first side.

3. The player of claim 1 said disc has at least two data layers on each side and said lasers read data from said at least two data layers on each side.

4. The player of claim 1 wherein said laser heads read data from said first and second sides substantially simultaneously.

5. The player of claim 1 wherein said laser heads read data from said first and second sides sequentially.

6. The player of claim 1 wherein said laser heads read data from said first and said second sides in an alternating fashion.

7. The player of claim 1 wherein said disc has a periphery and a hub, each side has a lead-in area disposed adjacent to one of said periphery and said hub and said laser heads are moved first to said lead-in areas to start reading the data on the respective sides.

8. The player of claim 3 wherein said disc includes lead-in, lead-out and intermediate areas on each side, and wherein each laser head is moved, respectively, from the lead-in to the intermediate and then to the lead-out areas.

9. The player of claim 8 further comprising a buffer collecting data from said laser heads.

10. An optical disc/player combination comprising:
an optical disc including a first side having a respective track with data extending between the hub and the periphery of said disc along a first spiral, and a second side having a respective track with data extending between the hub and the periphery of the disc along a second spiral, wherein said first and second spirals are

oriented in opposite directions as viewed from the respective sides; and

a player including a first laser head reading data from said first side, a second laser head reading data from said second side, a laser head controller moving said first and second laser heads across said sides and a motor rotating said disc in the same direction when said first and second laser heads read data.

11. The combination of claim 10 wherein at least one side includes a top and a bottom layer, each layer having a respective track of data.

12. The combination of claim 10 wherein each side includes a top and a bottom layer, each layer having a respective track of data.

13. The combination of claim 12 wherein data is arranged in a sequence starting on one layer of said first side and ending on another layer of said second side.

14. The combination of claim 12 wherein said sequence starts on the top layer of said first side and ends on the top layer of said second side.

15. The combination of claim 10 wherein said player further comprises a processor controlling the reading of data by said laser heads.

16. The combination of claim 15 wherein said processor reads data from said first side and said second side in sequence.

17. The combination of claim 15 wherein said processor reads data from both sides simultaneously.

18. The combination of claim 15 wherein said processor reads data in an alternating fashion from said first and second sides.

19. A method of reading data from an optical disc having two sides with at least one data layer on each side with data tracks disposed along spirals, with the track on one side being disposed along a first spiral oriented in a first direction and the track on the other side being disposed along a second spiral oriented in a direction opposite to that of said first direction as viewed from the respective sides, the method comprising:

inserting said disc into a player having a first laser head positioned to read data from said first side and a second laser head positioned to read data from said second side;

rotating said disc; and

reading data from both sides of said disc with said first and second laser heads while said disc rotates in the same direction.

20. The method of claim 19 wherein data is read in sequence from said first side and then from said second side.

21. The method of claim 19 wherein data is read simultaneously from both sides.

22. The method of claim 19 wherein data is read in an alternating fashion from said first and said second sides.

23. The method of claim 19 further comprising determining the proper direction of rotation for said disc and then rotating said disc in said proper direction.

24. The method of claim 19 wherein said first side has two data layers, each layer having respective data tracks, said data being read from both layers on said first side.

25. The method of claim 19 wherein said first and second sides are provided with respective top and bottom data layers, each layer having respective data tracks, said data being read from both layers by the respective laser heads.